

Claims

[c1]

A device for attracting insects comprising:

- a) a flow mechanism including an outflow channel structured and arranged to provide an outflow of air and insect attractant out of the device to the atmosphere, and an inflow channel structured and arranged to draw an inflow directed counter to the outflow, the outflow being substantially within the inflow outside of the device; and
- b) a mounting structure being adapted to position the device with the outflow directed out of the device in a direction substantially parallel to the ground.

[c2]

The device of claim 1 wherein the inflow urges insects into the device through the inflow channel.

[c3]

The device of claim 1 wherein a mounting structure being adapted to position the device with the outflow directed out in a substantially upward direction.

[c4]

The device of claim 1, further comprising mounting structure being adapted to position the device with the outflow directed towards the ground in a substantially downward direction.

[c5]

An insect trapping device, comprising:

- a) a first channel having an opening;
- b) a second channel having at least one opening, wherein the at least one opening substantially ^{surrounds} covers the opening of the first channel;
- c) a fan mechanism structured and arranged with the first and second channel to exhaust a gaseous first flow out the first channel to atmosphere outside the device, the first flow including an insect attractant, and to draw a second flow of atmospheric air from outside the device through the at least one opening into the second channel, the second flow substantially enveloping the first flow outside the device and being directed substantially counter thereto; and
- d) a trap structured and arranged to permit the second flow to pass

there through while trapping insects that enter the trapping device through the second channel with the second flow.

[c6] The device of claim 5 wherein the gaseous first flow emits through an opening at least one foot off the ground.

[c7] The device of claim 5, further comprising:

- a) a mesh bag having an opening for coupling to the second flow of air being drawn into the trap, the mesh bag being formed of a material structured to allow air to pass freely there through while inhibiting passage of insects;
- b) a flat ring made of a stiff material supporting the bag around the opening;
- c) a layer of adhesive on one side of the ring;
- d) a removable covering over the layer of adhesive; and
- e) the ring being structured to permit the ring to be folded upon itself with the covering removed to seal the opening with the adhesive.

[c8] The device of claim 7, wherein the structure to permit the ring to be folded upon itself includes a line of weakness along a diameter of the ring.

[c9] The device of claim 8, wherein the line of weakness comprises a score line.

[c10] The device of claim 5, further comprising:

- a) a mesh bag having an opening for coupling to the second flow of air being drawn into the trap, the mesh bag being formed of a material structured to allow air to pass freely there through while inhibiting passage of insects;
- b) a ring made of a stiff material supporting the bag around the opening; and
- c) a frusto-conical structure supported by the ring and positioned with a large end at the opening of the mesh bag and a small end within the mesh bag.

[c11] The device of claim 10, further comprising a layer of adhesive on one side of

the ring and a removable covering over the layer of adhesive, wherein the ring and the frusto-conical structure are structured to permit the ring to be folded upon itself and sealed with the adhesive with the covering removed.

[c12]

A method of urging insects into a device, comprising:

- a) emitting a gaseous first flow to the atmosphere from the device in a direction substantially parallel to the ground, the first flow including an insect attractant; and
- b) drawing a second flow of air into the device, including directing the second flow substantially counter to the first flow and substantially enveloping the first flow outside the device, such that insects attracted to the device by the first flow are attracted into the device with the second flow.

[c13]

The method of claim 12 wherein the gaseous first flow emits at a rate between 200 and 500 ml/min.

[c14]

The method of claim 12 wherein the inflow is directed near the upper edge of the outflow outside the device leading insects, which have a tendency to fly on the edge on the plume, into the suction flow into the device.

[c15]

The method of claim 12 wherein the second flow is drawn through a channel within the device with a flow velocity that exceeds the maximum flight velocity of selected variants of insects thereby selectively targeting certain types of insects.

[c16]

A method of urging insects into a device, comprising:

- a) emitting a gaseous first flow in a substantially radial direction to the atmosphere from the device, the first flow including an insect attractant; and
- b) drawing a second flow of air into the device, including directing the second flow substantially counter to the first flow and substantially enveloping the first flow outside the device, such that insects attracted to the device by the first flow are attracted into the device with the

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second flow.

[c17] The method of claim 16, further comprising urging insects into the device by the second flow.

[c18] The method of claim 16, wherein the insects which have a tendency to fly upwards to avoid danger will be further drawn into the trapping device.

[c19] The method of claim 16, further comprising at least one of trapping and causing injury to the insects urged into the device.

[c20] The method of claim 16, wherein drawing the second flow includes drawing the second flow through a channel within the device with a flow velocity that exceeds the maximum flight velocity of a mosquito.

[c21] The method of claim 16, wherein the insect attractant comprises carbon dioxide.

[c22] The method of claim 16, wherein the emitting the first flow is in a substantially upwards direction.

[c23]

An insect trap, comprising:

- a) an inner tube having open first and second ends and defining a central space there between;
- b) an outer tube including a closed second end proximate the second end of the inner tube, the outer tube being structured and arranged with the inner tube to provide a channel therebetween, the channel having a substantially annular-shaped opening proximate the first end of the inner tube and communicating with the central space through the second opening of the inner tube;
- c) a screen dividing the central space into a first section communicating with the first end of the inner tube and a second section communicating with the second end of the inner tube, the screen inhibiting passage of flying insects between the first and second sections while allowing air to flow therebetween;

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e) a fan mechanism positioned to draw a flow of air into the substantially annular-shaped opening, through the channel, through the open second end of the inner tube, through the central space, to mix the flow of air with the insect attractant, and to blow the flow of air mixed with the insect attractant out the open first end of the inner tube such that the flow of air mixed with attractant is substantially encircled outside the device by the flow of air being drawn into the substantially annular-shaped opening and is directed substantially counter thereto; and

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